Extreme Series

Intel® Desktop Board DZ68BC

ATX Form Factor

Primed and Ready!

PRODUCT BRIEF

Intel® Desktop Board DZ68BC

Primed and Ready!

Introducing the Intel® Desktop Board DZ68BC, designed to unleash the power of 2nd Generation Intel® Core™ i7 and –K Processors in the LGA1155 package

Build Upon a Winner

With the Intel® Desktop Board DZ68BC, Intel is once again offering the board of choice for gamers and performance enthusiasts who live to push their systems WAY beyond the limits. The DZ68BC board offers the customization features every power user needs along with the new Intel® Smart Response Technology which dramatically improves PC responsiveness for faster application loading and boot times. The DZ68BC board is optimized to fully support the 2nd Generation Intel® Core™ i7 and the –K processors.

Power and Responsiveness for the Hottest New Games

The advanced power and overclocking[1] capabilities of the DZ68BC board coupled with the dramatic responsiveness improvements delivered by the Intel Smart Response Technology provide the board of choice for gamers and media creation enthusiasts. Intel Smart Response Technology provides SSD like performance and up to 50% improvement in responsiveness as compared to an HDD only system[2].

BIOS Vault Technology protects the board and provides fault tolerant and secure firmware. Intel BIOS is protected from outside attacks and enables advance security checks and balances. Fast Boot also speeds through boot times and eliminates unnecessary delays. Intel® Extreme Memory Profiles (Intel® XMP) is a performance-packed expansion of the standard DDR3 memory specification, enabling a robust and stable solution for ultra-fast memory. Core performance optimization tools such as OC Assistant[3] and Extreme Tuning Utility (XTU) are also available to optimize the Core and Graphics performance of the DZ68BC board.

Intel® HD Graphics with LucidLogix Virtu* GPU Virtualization

The Intel Desktop Board DZ68BC is equipped with DVI-I, HDMI*, and Display-Port* connectors and supports flexible dual independent display for processors with Intel® HD Graphics. Coupled with Intel HD Graphics, the Virtu* GPU Virtualization software allows the system to simultaneously take full advantage of both the low-power best-in-class media processing features of the 2nd-generation Intel® Core processors and the 3D gaming performance of add-in graphics cards.

Extreme Series

The Boxed Intel® Desktop Board DZ68BC Solution Includes:

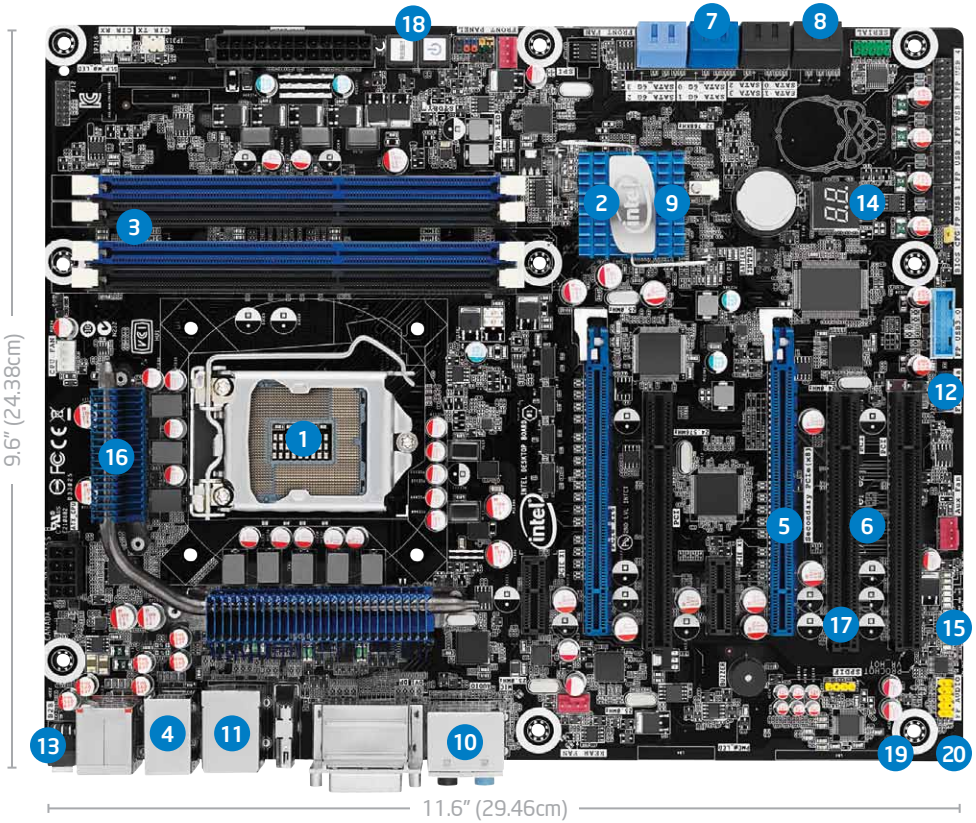
- Intel® Desktop Board DZ68BC
- ATX 2.2 compliant I/O shield
- UV reactive SATA cables
- Extreme mouse pad
- Bluetooth*/Wi-Fi module
- Board and back panel I/O layout stickers
- Quick reference guide
- Intel® Express Installer driver and software DVD
- Windows* Premium WHQL certified
- NVIDIA* SLI* Bridge connectors
- Post code information card

Bluetooth* 2.1/Wi-Fi-802.11b/g/n module

Capability	Software included
Utilities	▪ LucidLogix Virtu* GPU Virtualization Software ▪ Intel® Extreme Tuning Utility (Intel® XTU) (Internet Download): Monitors system temperature and fan speeds. Enables manual tuning of memory and processor or one-button auto tuning ▪ Intel® Express Installer: Streamlines board integration
Productivity	▪ Additional free software: Helps get your system up and running smoothly and quickly
Antivirus	▪ ESET* Smart Security 5 Antivirus: Removes viruses automatically, blocks certain internet worm attacks, and protects e-mail and instant messages

Intel® Desktop Board DZ68BC

Features and Benefits



VIRTU GREEN . GPU . Virtualization by Lucid

HDMI® HIGH-DEFINITION MULTIMEDIA INTERFACE

Extreme Series

1. **Support for the Intel® Core™ i7 processor in the LGA1155 package:** Features Intel® Turbo Boost Technology[4], Intel® Hyper-Threading Technology[5] for exceptional performance and scalability, and 8 MB Shared Intel® Smart Cache, enabling dynamic and efficient allocation of cache.
2. **Intel® Z68 Express Chipset:** Features Intel® Smart Response Technology.
3. **Four DIMM slots:** Designed to support overclocked[1] DDR3 1600+ O.C.[6] memory, delivering up to 32 GB/s memory bandwidth.
4. **Four Super-Speed USB 3.0 ports (2 external, 2 via internal header), two IEEE 1394a ports (1 external, 1 via internal header), and 14 USB 2.0 ports (6 back ports, 8 via internal headers):** Two USB 2.0 ports provide high current and fast charging capability.
5. **Two PCI Express 2.0* ×16 slots:** Ability to scale to dual ×8 graphics support for certified AMD CrossFireX* and NVIDIA* SLI.*
6. **PCI Express* and PCI connectors:** Flexibility to support PCI Express and legacy PCI devices.
7. **Four SATA 6.0 Gb/s ports, four SATA 3.0 Gb/s ports, and one eSATA 6.0 Gb/s.**
8. **Intel® Rapid Storage Technology:** Performance and reliability with support for RAID 0, 1, 5, 10, and Intel® Rapid Recover Technology.
9. **Intel® Smart Response Technology:** Provides SSD like performance with HDD capacity. Dramatically improves response time when a small capacity SSD is used in conjunction with a large HDD.
10. **(8+2) 10-channel Intel® High Definition Audio[7] (7.1):** Enables high-quality integrated audio that rivals the performance of high-end discrete solutions.
11. **Intel® Gigabit Ethernet LAN:** Features onboard 10/100/1000 Mb/s Ethernet LAN connectivity.
12. **Consumer infrared receiver and transmitter:** Supports receiving, learning, and emitting capabilities, controls up to two additional CE devices with your PC, and eliminates the need for a USB CIR dongle.
13. **Back-to-BIOS switch:** Allows easy access to the BIOS for easy overclocking[1] and recovery.
14. **Post code decoder:** Allows for display of post codes for debug along with the included post code quick reference card displaying critical areas to help troubleshoot performance-increase roadblocks.
15. **Initialization and diagnostic LEDs:** Provides instant visible system feedback.
16. **Exclusive voltage regulator heat sinks:** Provides reliable and silent cooling for extreme performance tuning.
17. **Solid state capacitors and exclusive Power Supervisor:** Maximizes stability and power for advanced performance tuning.
18. **Tweaker switches:** Power and reset switches for overclocking[1] on the go, quick reset, and power on.
19. **ATX (9.6" × 11.6") Form Factor:** ATX board supports more fully featured tower designs.
20. **Lead-free:** Meets all worldwide regulatory requirements for lead-free manufacturing.

Intel® Desktop Board DZ68BC

Extreme Series

Technical Specifications

PROCESSOR
Processor Support
- Intel® Core™ i7 processors in the LGA1155 package
- Intel® Turbo Boost Technology[4]
- Intel® Hyper-Threading Technology[5]
- Integrated Memory Controller with support for up to 32 GB[6] of system memory DDR3 1600+ O.C. SDRAM
- Intel® Fast Memory Access
- Supports Intel® 64 architecture[8]

CHIPSET
Intel® Z68 Express Chipset
- Intel® Z68 PCH
- Intel® Rapid Storage Manager (RAID 0, 1, 5, 10)
- Intel® Smart Response Technology
- Four SATA (6.0 Gb/s), four SATA (3.0 Gb/s) ports and one eSATA (6.0 Gb/s)

USB PORTS
- Six Hi-Speed USB 2.0 ports via back panel, including two fast charging high current ports (yellow)
- Eight additional Hi-Speed USB 2.0 ports via four internal headers
- Two Super-Speed USB 3.0 ports (blue) and two Super--Speed USB 3.0 via internal headers

SYSTEM BIOS
- 32 Mb Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play, IDE drive auto-configure
- Advanced configuration and power interface V3.0b, DMI 2.5

FAST BOOT
- Fast Boot
- Intel® Express BIOS update support: BIOS update via F7 function key

HARDWARE MANAGEMENT FEATURES
- Processor fan speed control
- System chassis fan speed control
- Voltage and temperature sensing
- Fan sensor inputs used to monitor fan activity
- Power management support for ACPI 3.0b

INTEL® PRO 10/100/1000 NETWORK CONNECTION
- Intel® LAN on the back panel
- New low-power design can meet Energy Star* 5.0 specifications

EXPANSION CAPABILITIES
- Two PCI Express* ×16 connectors (configured as ×8/×8 in dual graphics mode)
- Two PCI Express 2.0 ×1 slots
- Three PCI slots

AUDIO
- 10-channel Intel® High Definition Audio[7] codec
- 8-channel via the back panel
- 2-channel via the front panel
- Back panel support for output via optical cable
- One internal header for S/PDIF output for HDMI* support

SYSTEM MEMORY
Memory Capacity
- Four 240-pin DIMM connectors supporting dual-channel memory. Two double-sided DIMMs per channel
- Maximum system memory up to 32 GB[9] using 8 GB double-sided DIMMs

Memory Types
- DDR3 1600+ O.C. SDRAM memory support
- Non-ECC Memory

Memory Voltage
- 1.35 V low voltage
- 1.5 V standard JEDEC voltage
- Support for Intel® XMP extended voltage profiles

JUMPERS AND FRONT PANEL CONNECTORS
Jumpers
- Single configuration jumper design
- Jumper access for BIOS maintenance mode

Front Panel Connectors
- Reset, HD LED, Power LEDs, power on/off
- Four front-panel Hi-Speed USB 2.0 headers
- One front-panel Super-Speed USB 3.0 headers
- Front-panel audio header
- One IEEE 1394a header

MECHANICAL
Board Style
- ATX

Board Size
- 11.6" × 9.6" (29.46 cm × 24.38 cm)

Baseboard Power Requirements
- ATX 12 V

ENVIRONMENT
Operating Temperature
- 0°C to +55°C

Storage Temperature
- –20°C to +70°C

REGULATIONS AND SAFETY STANDARDS
United States and Canada
UL 1950, Third edition – CAN/CSA C22.2 No. 950-95 with recognized U.S. and Canadian component marks

Europe
Nemko certified to EN 60950 International Nemko certified to IEC 60950 (CB report with CB certificate)

EMC REGULATIONS
(tested in representative chassis)
United States
FCC Part 15, Class B
FCC Part 15, Class B open-chassis (cover off) testing
Canada
ICES-003, Class B
Europe
EMC directive 89/336/EEC; EN 55022:1998 Class B; EN 55024:1998
Australia/New Zealand
AS/NZS 3548, Class B
Taiwan
CNS 13438, Class B International CISPR 22:1997, Class B

Environmental Compliance
Complies with US CRF via EN55022 +6 db in system configurations with an open chassis and EU Directive 89/336/EEC and use via EN55022 and EN50082-1 in a representative chassis. Lead-Free: The symbol is used to identify electrical and electronic assemblies and components in which the lead (Pb) concentration level in any of the raw materials and the end product is not greater than 0.1% by weight (1000 ppm). This symbol is also used to indicate conformance to lead-free requirements and definitions adopted under the European Union's Restriction on Hazardous Substances (RoHS) directive, 2002/95/EC.

1 Warning: Altering clock frequency and/or voltage may (i) reduce system stability and useful life of the system and processor; (ii) cause the processor and other system components to fail; (iii) cause reductions in system performance; (iv) cause additional damage; and (v) affect system data integrity. Intel has not tested, and does not warranty, the operation of the processor beyond its specifications.

2 Responsive performance measurements performed using Intel Core Processor, Intel Z68 Express Chipset, Intel® Solid-State Drive, and Intel® Rapid Storage Technology driver. Performance as measured by PCMark Vantage v1.0.1 tests on systems with Intel DZ68BC motherboard, Intel Core processor, Intel 6 Series chipset, Microsoft Windows® 7 Ultimate 64-bit, SATA 2 for both SSD and HDD, Hitachi 7200 RPM 320 GB HDD, Intel 20/40/80 GB Solid-State Drives, Integrated Graphics, 4 GB 1066 MHz DDR3 DRAM. System performance improvement on platforms is configuration-dependent; as measured by PCMark® Vantage tests. Boot times taken with Microsoft Velocity v4.3 and Microsoft PwrTest (included in Microsoft WDK, for S4 times only).

3 OC Assistant software and BIOS capability for this features may be available shortly after launch of product.

4 Intel® Turbo Boost Technology requires a PC with a processor with Intel Turbo Boost Technology capability. Intel Turbo Boost Technology performance varies depending on hardware, software, and overall system configuration. Check with your PC manufacturer on whether your system delivers Intel Turbo Boost Technology. See www.intel.com/technology/turboboost for more information.

5 Intel® Hyper-Threading Technology requires a computer system with a processor supporting HT Technology and an HT Technology-enabled chipset, BIOS, and operating system. Performance will vary depending on the specific hardware and software you use. For more information including details on which processors support HT Technology, see www.intel.com/info/hyperthreading.

6 Maximum peak memory bandwidth requires four DDR3 modules to be populated in each of the blue memory slots. DDR3 2400 memory support on this motherboard requires advanced knowledge of BIOS and memory tuning; individual results may vary. For specific supported memory for this motherboard, please visit www.intel.com/products/motherboard/ for more details.

7 Intel® High Definition Audio requires a system with an appropriate Intel® chipset and a motherboard with an appropriate codec and the necessary drivers installed. System sound quality will vary depending on actual implementation, controller, codec, drivers, and speakers. For more information about Intel® HD Audio, refer to www.intel.com/design/chipsets/hdaudio.htm.

8 64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. See http://developer.intel.com/technology/intel64/index.htm for more information.

9 System resources and hardware (such as PCI and PCI Express*) require physical memory address locations that can reduce available addressable system memory. This could result in a reduction of as much as 1 GB or more of physical addressable memory being available to the operating system and applications, depending on the system configuration and operating system.

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Actual Intel® Desktop Board may differ from the image on the box.

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